

# SOLAR STATIONS ACCESSORIES

## FLOW, TEMPERATURE AND PRESSURE SENSORS (HEAT QUANTITY METER, SYSTEM MONITORING)

### Flow sensors for TiSUN® solar control units (heat quantity meter)

Flow sensor without moving parts and with integrated temperature measuring for liquid media, complete with flow measuring section and brass fittings. Fast response behaviour by direct contact to the medium. Suitable for heat quantity metering in combination with TiSUN® solar control unit.

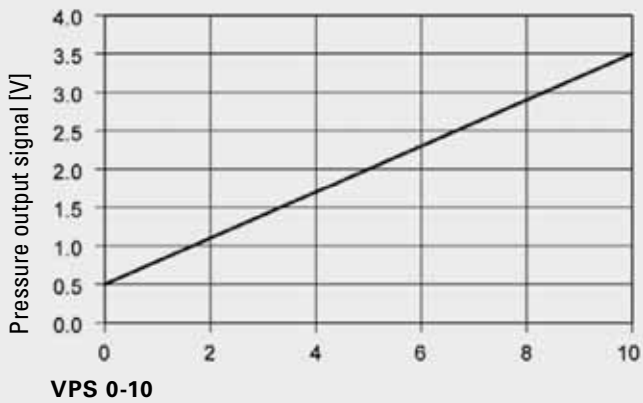
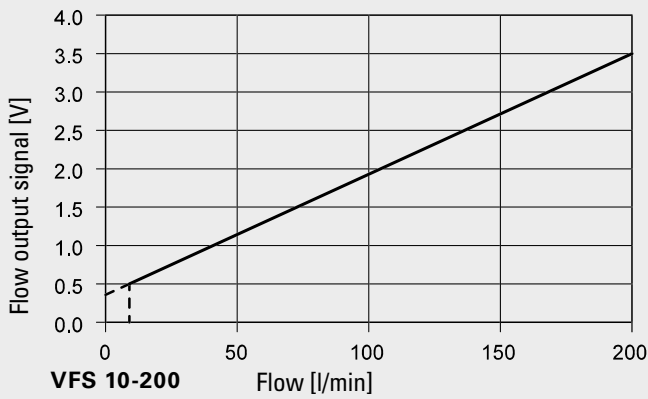
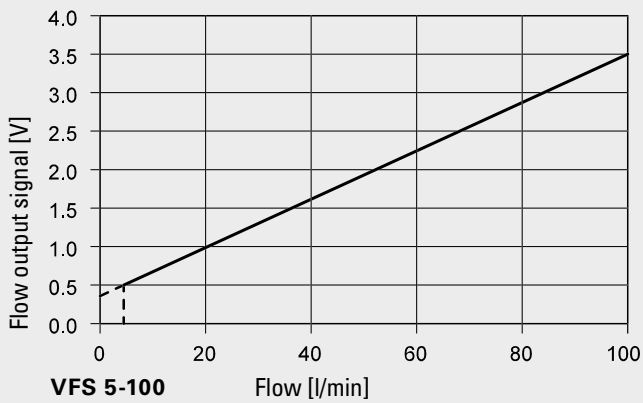
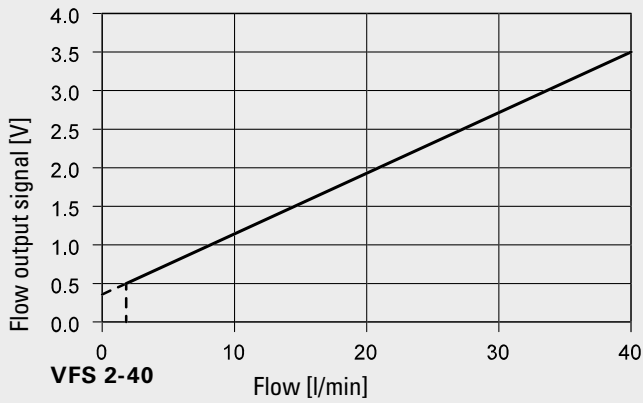
#### Characteristics

- Flow measuring range 2-40, 5-100, 10-200 [l/min]
- Based on vortex flow
- Fast measuring result (direct media contact)
- Output voltage resolution optimal for evaluation via microprocessor and PLC
- Compact and robust design
- Drinking water tested: WRAS, NSF, KTW, W270, ACS

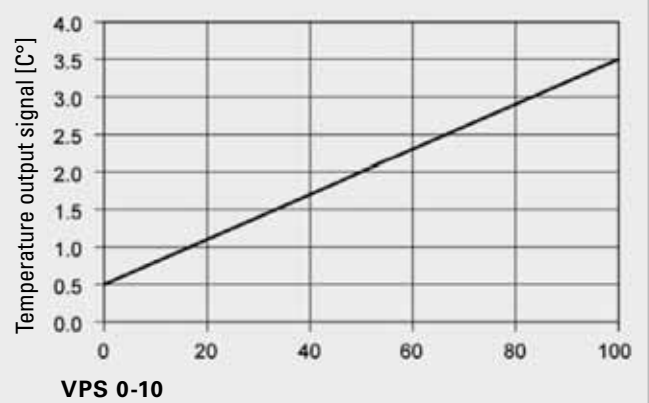
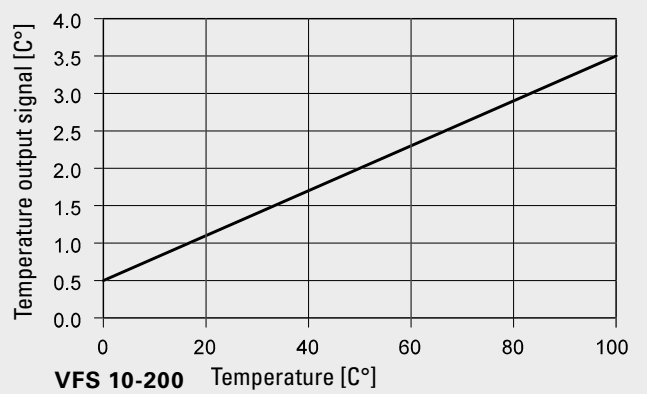
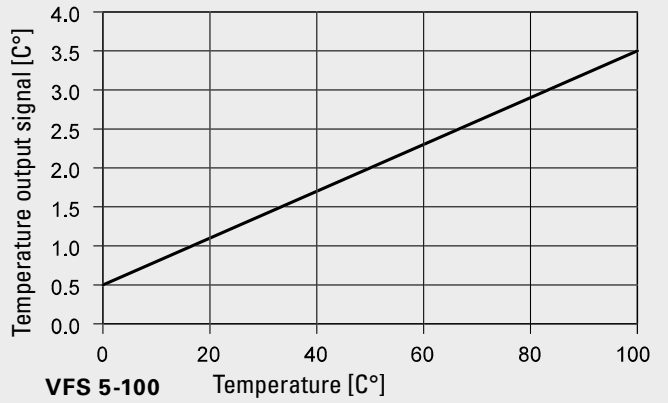
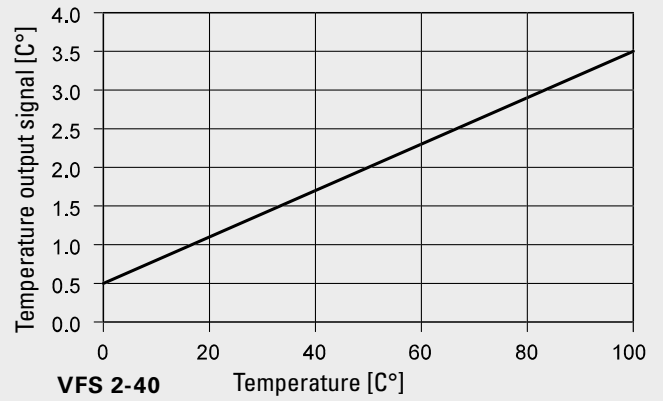


Type	VFS 2-40	VFS 5-100	VFS 10-200	VPS 0-10
<b>Flow measuring</b>				
Measuring range [l/min]	2-40	5-100	10-200	
Accuracy (in the 0-100 °C range)	±5%	±1.5%	±1.5%	
Response speed	<1 s	<1 s	<1 s	
Resolution [l/min]	0.05	0.25	1.0	
<b>Pressure measuring</b>				
Measuring range [bar]				0-10 bar
Accuracy (in the 0-100 °C range)				2.5%
Response speed				<1 s
<b>Temperature measuring</b>				
Measuring range [°C]	0-100	0-100	0-100	0-100
Accuracy (25-80 °C)	±1 °C	±1 °C	±1 °C	±1 °C
Accuracy (0-100 °C)	±2 °C	±2 °C	±2 °C	±3 °C
Response speed	<1 s	<1 s	<1 s	<1.5 s
Measuring section pipe dimensions (L x W x H) [mm]	110 x 60 x 32	129 x 37 x 32	137 x 45 x 41	Without measuring section
Sensor element dimensions	See figure	See figure	See figure	See figure
Connection	G 3/4"	R 3/4"	R 1"	
Weight [g]	220	80	100	
Material with media contact	Grivory, PPS, EPDM, 1.4408	Grivory, PPS, EPDM	Grivory, PPS, EPDM	Grivory, PPS, EPDM
<b>Operating and ambient conditions</b>				
Medium temperature [°C]	0-100	0-110	0-110	0-110
Temperature without sensor failure [°C]		-25 up to +120 (short-term)		
Ambient temperature [°C]		-25 up to +60 (90 °C short-term)		
Maximum pressure [bar]		10 (short-term - 5 mins., 15 bar)		
Protection class		IP 44		
Vibrations		20-2,000 Hz, 10G, 4h		
Sensor output signals		0.5 V – 3.5 V, proportional to flow and temperature		

### Output voltage for flow and pressure



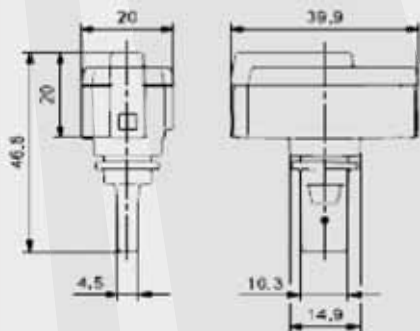
### Output voltage for temperature



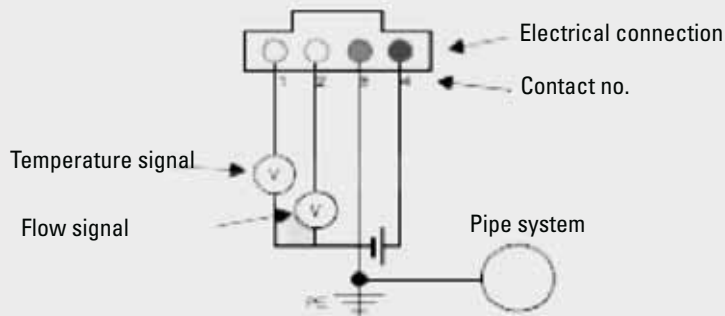
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### Sensor element dimensions (mm)



### Electrical connection



### Contact configuration

1	Temperature signal (0.5 to 3.5 V proportional to contact 3) Yellow
2	Flow/pressure signal (0.5 to 3.5 V proportional to contact 3) White
3	Grounding (0 V) Green

### Installation example, flow and temperature sensor with measuring section

